

AMENDMENTS TO THE CLAIMS

1. (Withdrawn) An apparatus for mixing at least two fluids, particularly fluids having differing viscosities, the apparatus comprising: a first fluid line for conducting an intermittently flowing first fluid and a second fluid line for conducting an intermittently flowing second fluid, the first and second fluid lines being connected at a junction to a third fluid line, which forwards the two, particularly mixed, fluids; a first flow adjuster, inserted in the first fluid line for setting a volumetric or mass flow rate of the first fluid, and a second flow adjuster, inserted in the second fluid line for setting a volumetric or mass flow rate of the second fluid; and means for generating a first control signal, representing an instantaneous setting value for the first flow adjuster, and a second control signal, representing an instantaneous setting value for the second flow adjuster, the two flow adjusters being so controlled by means of the control signals that the two fluids flow into the third fluid line alternately.

2. (Withdrawn) An apparatus as set forth in claim 1 wherein the flow adjusters are so controlled by means of the control signals that at least upstream of the third fluid line, each of the two fluids flows in a pulsating manner.

3. (Withdrawn) An apparatus for mixing at least two fluids, particularly fluids having differing viscosities, the apparatus comprising: a first fluid line for conducting an at least intermittently flowing first fluid and a second fluid line for conducting an at least intermittently flowing second fluid, the first and second fluid lines being connected at a junction to a third fluid line, which forwards the two, particularly mixed, fluids; a first flow adjuster inserted in the first fluid line for setting a volumetric or mass flow rate of the first fluid and a second flow adjuster, inserted in the second fluid line for setting a volumetric or mass flow rate of the

second fluid; a first flowmeter, inserted in the first fluid line for measuring a volumetric flow rate and/or a mass flow rate of the first fluid and for generating at least a first measurement signal, representing the measured flow rate of the first fluid, and a second flowmeter, inserted in the second fluid line for measuring a volumetric flow rate and/or a mass flow rate of the second fluid and for generating at least a second measurement signal, representing the measured flow rate of the second fluid, with the first meter measuring at least intermittently a totalized volumetric or totalized mass flow rate of the first fluid and generating a, particularly digital, first measured flow rate value, which represents the totalized flow rate of the first fluid; and a first flow controller, which, using the first measurement signal, generates a first control signal, representing an instantaneous setting value for the first flow adjuster, and a second flow controller, which, using the second measurement signal, generates a second control signal, representing an instantaneous setting value for the second flow adjuster, said first and second flow controllers being connected by at least one measurement data line, and said second flow controller generating said second control signal for the second flow adjuster by also using the first measured flow rate value, which is transmitted over the measurement data line.

4. (Withdrawn) An apparatus as set forth in claim 3 wherein the second meter at least intermittently measures a totalized volumetric or mass flow rate of the second fluid and generates a, particularly digital, second measured flow rate value, representing the totalized flow rate of the second fluid.

5. (Withdrawn) An apparatus as set forth in claim 4 wherein the first flow controller generates the first control signal for the first flow adjuster by also using the second measured flow rate value, which is transmitted over the measurement data line.

6. (Withdrawn) An apparatus as set forth in claim 1 wherein the flows of the first fluid and/or the second fluid are discontinuous and particularly pulsating.

7. (Withdrawn) An apparatus as set forth in claim 1 wherein the flows of the first fluid and/or the second fluid are set to a value other than zero in timed sequence.

8. (Withdrawn) An apparatus as set forth in claim 1 wherein the flows of the first and second fluids are alternately set to a value other than zero.

9. (Withdrawn) An apparatus as set forth in claim 1 wherein the first flow controller at least intermittently receives a, particularly digital, reference input signal representing an instantaneous set point for the flow rate of the first fluid.

10. (Currently Amended) A process for producing a fluid mixture by mixing a first fluid, held in a first fluid line, and a second fluid, held in a second fluid line, said fluid mixture to be conducted within a third fluid line at least intermittently connected to said first fluid line and at least intermittently connected to said second fluid line, said process comprising the steps of:

causing the first fluid to flow into said third fluid line;
setting the flow of the first fluid in said first fluid line to zero;
causing the second fluid to flow into said third fluid line,
setting the flow of the second fluid in said second fluid line to zero; and
measuring a volumetric or mass flow rate in at least two of the said three fluid lines,

wherein said steps of causing the first and second fluids to flow into the third fluid line are performed alternately and repeated several times.

11. (Previously presented) A process as set forth in claim 10, comprising the further step of measuring a volumetric or mass flow rate in at least one of the three fluid lines.

12. (Previously presented) A process as set forth in claim 10, comprising the further step of measuring a fluid density in at least one of the three fluid lines.

13. (Previously presented) A process as set forth in claim 10 comprising the further step of measuring a fluid viscosity in at least one of the three fluid lines.

14. (Previously presented) A process for producing a fluid mixture of predeterminable mass and/or predeterminable volume by mixing a first fluid, held in a first fluid line, and a second fluid, held in a second fluid line, said fluid mixture to be conducted in a third fluid line at least intermittently connected to said first fluid line and at least intermittently connected to said second fluid line, the process comprising the steps of:

causing the first fluid to flow into a third fluid line,

measuring a volumetric or mass flow rate of the first fluid and generating a first measurement signal, which represents the measured flow rate of the first fluid;

measuring a totalized volumetric or mass flow rate of the first fluid and generating a first measured flow rate value, which represents the totalized flow rate of the first fluid;

determining, based on said first measured flow rate value, an instantaneous set point for a totalized volumetric or mass flow rate of the second fluid; and

causing the second fluid to flow into the third fluid line at least until the

totalized volumetric or mass flow rate of the second fluid reaches the set point, wherein said first and second fluids flow alternately into said third fluid line for producing said fluid mixture within said third fluid line.

15. (Previously presented) A process as set forth in claim 14, comprising the further step of measuring a volumetric or mass flow rate of the second fluid and generating a second measurement signal, which represents the measured flow rate of the second fluid.

16. (Previously presented) The process as claimed in claim 10, further comprising a step of conducting the fluid mixture within said third fluid line.

17. (Previously presented) The process as claimed in claim 10, wherein said first and second fluids flow essentially discontinuously in the third line for producing said fluid mixture within the third fluid line.

18. (Previously presented) The process as claimed in claim 17, wherein the said first and second fluids flow in a pulsating manner in the third line.

19. (Previously presented) The process as claimed in claim 10, further comprising steps of using a first flow adjuster inserted in said first fluid line for setting a flow rate of said first fluid and using a second flow adjuster inserted in said second fluid line for setting a flow rate of said second fluid.

20. (Previously presented) The process as claimed in the claim 19, wherein the said first and second fluids flow essentially discontinuously in the third line for producing said fluid mixture within the third fluid line.

21. (Previously presented) The process as claimed in the claim 20, wherein the said first and second fluids flow in a pulsating manner in the third line.

22. (Previously presented) The process as claimed in claim 10, wherein the first and second fluid lines are connected with said third fluid line at a junction.

23. (Previously presented) The process as claimed in claim 10, further comprising steps of: using a first control signal to control a first flow adjuster inserted in said first fluid line, said first flow adjuster setting a flow rate of said first fluid, and using a second control signal to control a second flow adjuster inserted in said second fluid line, said second flow adjuster setting a flow rate of said second fluid.

24. (Previously presented) The process as claimed in the claim 23, further comprising a step of controlling a mixing ratio of said fluid mixture by a ratio of pulse widths of said first and second control signals, said mixing ratio representing a relation of said first fluid in the mixture to said second fluid in the mixture.

25. (Previously presented) The process as claimed in claim 14, wherein the fluid mixture is conducted in the third fluid line.

26. (Previously presented) The process as claimed in claim 25, wherein the said first and second fluids flow essentially discontinuously in the third line for producing said fluid mixture within the third fluid line.

27. (Previously presented) The process as claimed in claim 26, wherein the said first and second fluids flow in a pulsating manner in the third line.

28. (Previously presented) The process as claimed in claim 14, wherein the fluid mixture is produced from said first and second fluids flowing in the third fluid line.

29. (Previously presented) The process as claimed in claim 28, wherein the said first and second fluids flow essentially discontinuously in the third line for producing said fluid mixture within the third fluid line.

30. (Previously presented) The process as claimed in claim 29, wherein the said first and second fluids flow in a pulsating manner in the third line.

31. (Previously presented) The process as claimed in claim 14, wherein the first and second fluid lines are connected with said third fluid line at a junction.

32. (Previously presented) The process as claimed in claim 14, wherein a flow rate of said first fluid is set with a flow adjuster, which is inserted in said first fluid line and which is controlled with a first control signal, and wherein a flow rate of said second fluid is set with a flow adjuster, which is inserted in said second fluid line and which is controlled with a second control signal.

33. (Previously presented) The process as claimed in claim 32, further comprising a step of controlling a mixing ratio of said fluid mixture by a ratio of pulse widths of said first and second control signals, said mixing ratio representing a relation of said first fluid in the mixture to said second fluid in the mixture.

34. (Previously presented) The process as claimed in claim 14, further comprising a step of measuring a volumetric or mass flow rate of the fluid mixture

in the third line.

35. (Previously presented) A process for producing a fluid mixture of predeterminable mass and/or predeterminable volume by mixing a first fluid, held in a first fluid line, and a second fluid, held in a second fluid line, said fluid mixture to be conducted in a third fluid line at least intermittently connected to said first fluid line and at least intermittently connected to said second fluid line, said process comprising the steps of:

causing the first fluid to flow into said third fluid line; setting the flow of the first fluid in the first fluid line to zero; causing the second fluid to flow into the third fluid line;

setting the flow of the second fluid in the second fluid line to zero; and measuring a density of the fluid in at least two of the three fluid lines

wherein said steps of causing the first and second fluids to flow into the third fluid line are performed alternately and repeated several times.

36. (Previously presented) The process as claimed in claim 35, further comprising a step of measuring a viscosity of the fluid in at least one of the three fluid lines.

37. (Previously presented) The process as claimed in claim 35, further comprising a step of measuring a volumetric or mass flow rate in at least one of the three fluid lines.

38. (Previously presented) A process for producing a fluid mixture of predeterminable mass and/or predeterminable volume by mixing a first fluid, held in a first fluid line, and a second fluid, held in a second fluid line, said fluid mixture to be conducted in a third fluid line at least intermittently connected to said first

fluid line and at least intermittently connected to said second fluid line, said process comprising the steps of:

causing the first fluid to flow into said third fluid line; setting the flow of the first fluid in the first fluid line to zero; causing the second fluid to flow into the third fluid line;

setting the flow of the second fluid in the second fluid line to zero;
and

measuring a viscosity of the fluid in at least two of the three fluid lines
wherein said steps of causing the first and second fluids to flow into the third fluid line are performed alternately and repeated several times.

39. (Previously presented) The process as claimed in claim 38, further comprising a step of measuring a density of the fluid in at least one of the three fluid lines.

40. (Previously presented) The process as claimed in claim 38, further comprising a step of measuring a volumetric or mass flow rate in at least one of the three fluid lines.